

MEMORANDUM OF AGREEMENT

BETWEEN

THE NATIONAL SCIENCE FOUNDATION AND

THE U.S. ARMY COLD REGIONS RESEARCH AND ENGINEERING LABORATORY

SECTION A – INTRODUCTION

This memorandum terminates the existing MOA dated 25 August 1987 and establishes responsibilities and procedures under which the Cold Regions Research and Engineering Laboratory (CRREL) shall furnish services to the Office of Polar Programs (OPP), National Science Foundation (NSF) taking advantage of CRREL's technical expertise in cold regions science, engineering and technology and polar-facility operations and management in support of OPPs Arctic and Antarctic missions, as may be requested by the NSF. These services may be requested by NSF or proposed by CRREL. The work begun under the old MOA will be completed under the terms of this new agreement with existing funding approvals.

SECTION B – BACKGROUND

The National Science Foundation has overall management and funding responsibility for U.S. activities in Antarctica and is the lead agency for coordinating the implementation of Arctic research policy. NSF receives guidance on polar research from the Antarctic Policy Group, the Polar Research Board, the Interagency Arctic Research Policy Committee, and the Arctic Research Commission. Numerous other parties are responsible for logistical support of the National Programs in the Arctic and Antarctic. It is anticipated that the U.S. interest in polar regions will be long term.

SECTION C – SCOPE

1. In discharging the National Science Foundation's responsibilities, it is anticipated the NSF's Office of Polar Programs will develop tasking with CRREL and fund CRREL to provide support for specific tasks associated with Arctic and Antarctic activities. The specific tasking, scope and schedule of activities and work to be performed under this MOA will be the subject of tasking instructions that will be established from time to time by mutual agreement as amendments to this MOA.
2. OPP will negotiate with CRREL for the provision of services, support and consultation for their efforts in areas such as the following, though others may be expected as well.
 - A. Design, construction and maintenance definition and management, including feasibility studies and preliminary testing, for snow and ice runways and roads.

- B. Off-road surface transportation technology for snow, ice, rock and tundra.
- C. Facilities design, maintenance and performance including energy, water and waste systems.
- D. Pilot studies and equipment evaluation in the field and under controlled chamber conditions as required.
- E. The preparation of state-of-the-art reports, conduct of reviews, assistance in arranging and conducting workshops, advice in program development, and participation in international meetings and collaborations.
- F. The development of special equipment and facilities.
- G. Oversight functions on behalf of OPP for vendors and contractors.
- H. Provide direct consultation, and at times, long-term temporary assignment personnel (e.g., IPA, details) to NSF and NSF contractors and affiliates.

SECTION D – RESOURCES

NSF will assign project and event numbers to CRREL activities, thus facilitating site visits and logistics support in the Arctic and in Antarctica. NSF will also provide salary, material and support cost for specific tasks to be performed by CRREL. CRREL will provide in-house and/or outside expertise utilizing appropriate personnel and facilities/equipment resources on specific tasks. Travel to polar and non polar regions is expected. Commercial aircraft and NSF resources will be used where appropriate.

SECTION E – SCHEDULE AND DELIVERABLES

Each task will be negotiated between the assigned program managers within NSF and CRREL. Each task will be briefly described in a Statement of Work (SOW). The SOW shall define the schedule, resources requirements and deliverables.

SECTION F – AMENDMENT AND TERMINATION

1. This Memorandum of Agreement may be modified, amended or terminated only by written mutual agreement between the NSF and CRREL.
2. In the event circumstances are such that either organization deems it necessary or desirable to terminate this agreement before completion of any services initiated hereunder, the NSF and CRREL will consult in advance of such termination and will, insofar as possible, fix a termination date sufficiently in advance so that the parties may determine how on-going contracts shall be completed; and to make personnel and other adjustments in their operations in light of such termination.

3. This agreement shall supersede the memorandum of agreement between the National Science Foundation and the U.S. Army Cold Regions Research and Engineering Laboratory for services in connection with planning, cost estimating, operations and design of various facilities and equipment in Antarctica supported by the United States Antarctic Program, dated 25 Aug 1987.

SECTION G – FUNDING AND APPROVAL

1. All task costs both direct and indirect of efforts undertaken for the NSF under this agreement shall be subject to reimbursement.
2. After any negotiation that may be necessary between NSF and CRREL, NSF will issue an Approval and Funding document. CRREL will not obligate any funds in connection with the tasking instructions without the Approval and Funding document. CRREL shall not exceed the approved funding level for any discrete task without NSF approval.
3. On a monthly basis, CRREL will bill the NSF for authorized costs. The NSF will make reimbursement promptly in the amount billed. Detailed expenditure reports including cost to date and projected cost to complete each task will be made available quarterly.

SECTION H – ADMINISTRATION

1. The Director, Office of Polar Programs, or his/her designee, will be responsible for administering this agreement for the NSF. The Director, CRREL, or her/his designee, will be responsible for administering this agreement for the Corps of Engineers.
2. The National Science Foundation will request services from CRREL by letter which will state the requested task and include a description of:
 - A. Overall objective
 - B. Work requirements
 - C. Timeline and milestones
 - D. NSF and CRREL points of contact
 - E. Other pertinent task information

CRREL will respond by letter containing:

- A. Cost estimates for the work requested
- B. Milestones and schedule to complete

C. Logistics requirements

D. Proposed principal investigator and other pertinent comments or recommendations

3. CRREL may also propose engineering, logistics, and science support projects to NSF, Office of Polar Programs following a similar format.

SECTION I - AUTHORITY

National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-71)

CRREL hereby enters into this Agreement pursuant to the authority of the Economy Act 31 U.S.C. 1535.

**U.S. ARMY COLD REGIONS RESEARCH
AND ENGINEERING LABORATORY**

**Barbara Sortirin
Director**

BY

DATE

Barbara Sortirin
23 Apr 01

**NATIONAL SCIENCE FOUNDATION
OFFICE OF BUDGET, FINANCE AND
AWARDS MANAGEMENT**

**William Bryant
Chief, Contracts Branch**

BY

DATE

William A Bryant
4/19/01

**NATIONAL SCIENCE FOUNDATION
OFFICE OF POLAR PROGRAMS**

**Karl A. Erb
Director**

BY

DATE

Karl A Erb
4/19/01